



Engineering & Computer Science BITS

ACCREDITATION TEAM TO VISIT ENGINEERING DEPARTMENTS.

On November 25th and 26th, a Visiting Team from the Canadian Engineering Accreditation Board (CEAB) will be at Concordia taking a look at the Faculty's undergraduate engineering programmes.

The CEAB is responsible for ensuring that undergraduate engineering programmes meet the academic requirements for professional engineering registration throughout the country. Undergraduate programmes are accredited for a maximum of six years. At the end of this period, a CEAB Visiting Team is invited by the appropriate provincial body (in Concordia's case, the Ordre des Ingénieurs du Québec [OIQ]) and the university to examine the relevant programmes.

The team consists of a Chair, a Vice-Chair, Programme Visitors (generally, one per programme) and a General Visitor. Programme Visitors are usually academics from other Canadian universities, who evaluate disciplines identical or similar to their own. The General Visitor is an experienced, professional engineer, whose function on the team is to bring attention to the educational needs of the profession in the real world.

An accreditation visit usually lasts two days. Before arriving at the university, team members receive supporting documentation concerning enrolment, specific courses, faculty research etc... During the visit they take the opportunity to assess intellectual atmosphere and morale, quality of staff and students, and professional attitudes. Team members interview various people in the university's engineering community (senior administrators, faculty members and students), tour facilities and review evidence of student performance. Before leaving the university, they meet with the Dean, and, if possible, the Executive Committee, to discuss perceived strengths and weaknesses.

The Visiting Team submits a report to the CEAB four weeks after the visit. Between January and June the document circulates among the CEAB, the university and the Visiting Team for comment and review. Accreditation decisions are made at the CEAB meeting in June.

The team visiting Concordia will have ten members, and will be evaluating all undergraduate engineering programmes offered by the Faculty.

Earthquake Relief for India

The worst earthquake in the history of independent India hit the south-central part of the country on September 29th. According to various reports, almost 30,000 people were killed - thousands more have been left homeless.

The Engineering and Computer Science Graduate Association, the Indian Students' Association, Dr. Rama Bhat (Mechanical) and Dr. Vishwanath Baba (Management) have formed a committee to help raise funds for the Canadian Red Cross' relief efforts.

Donations (cheques, money orders or drafts) payable to: "Earthquake - India Relief Fund, Canadian Red Cross" can be sent to:

Earthquake Fund, c/o Department of Mechanical Engineering, Concordia University, H 549
1455 de Maisonneuve West, Montreal, Quebec, H3G 1M8.

Donations of \$15 or more will receive tax receipts.

Faculty of Engineering and Computer Science Health and Safety Committee

The Faculty's Health and Safety Committee will be bringing you news in each issue of Bits. Should you have any concerns about health and safety in your area, any of the committee members would be happy to assist you.

Wesley Fitch - Co-Chair
Gerard Gouw - Co-Chair
John Alfara (Engr. Machine Shop)
Janet Bowles (Mechanical)
Pierre Chevrier (Electrical and Computer)
Andrew Chociski (Civil)
Ann Franklin-Bottjer (Dean's Office)
Vito Longiudice (Graduate Student)
Jacques Payer (CBS)

A representative from Environmental Health and Safety

If you are interested in becoming a member of the committee, there are still a few vacancies, call Wesley Fitch at 3153 or Gerard Gouw at 3160.

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EVENTS OF NOTE

* Ms. Kimberley Rokas (Electrical and Computer), Ms. Anja Sommer (Civil) and Dean Donat Taddeo attended a luncheon meeting at Club St. Denis on Tuesday, October 12th. The event, sponsored by the Canadian Nuclear Association, focused on *The presence of women in the fields of science and engineering*. Guest speakers included, Frances Brés-Tutino, from France's Atomic Energy Commission and Agneta Rising, from the Swedish State Power Board. Several other women engineers completed the panel, which was making stops in five cities across Canada.

* Dr. F. Dong and Ms. Angie de Benedictus (Computer Science) organised and hosted a workshop on the topic of *Incompleteness and Uncertainty in Information Systems* on October 8th and 9th. Twenty papers were presented at the conference, which drew attendees from Canada, the United States, Poland and the United Kingdom.

* On Thursday, October 7th, Drs. Stanley Kubina and Chris Trueman presented developments of the Electro-Magnetic Compatibility (EMC) Lab to a visiting French delegation and members of the Defence Research Establishment Ottawa (DREO). They highlighted EMC analysis of avionics systems, high frequency radar modelling of ships and aircraft, high frequency coupling modes and high frequency antennas on helicopters. The delegates spent the morning in seminars and then broke for lunch to continue informal discussions.

* The Micromechatronics lab of Dr. Rama Bhat (Mechanical) has recently received several welcome additions. Through a grant from Digital Equipment Canada the lab has obtained three new computers for the price of one, a savings of about \$100,000. The computers are being used for graduate student research.

* The Concordia chapter of the Canadian Society of Civil Engineers (CSCE) organised a trip to Washington, D.C. for 40 undergraduate students and professors between September 30th and October 4th. While in Washington the group visited The National Institute of Standards and Technology, the National Geographic Explorer's Hall and the National Building Museum. At a dinner sponsored by the Dean, they heard a guest speaker, Dr. Robert Jennings, from the National Aeronautics and Space Administration (NASA), on the topic of planetary atmosphere and programme.

* Congratulations to the following Professors who have won Seagram Fund for Academic Innovation awards: Asim Al-Khalili (Electrical and Computer), Rama Bhat (Mechanical), Richard Cherg (Mechanical), Bernice Goldsmith (Social Aspects), Bather Haroun (Electrical and Computer), Corinne Jetté (Technical Writing) and Leslie Landesberger (Electrical and Computer). 1993-94 applications for these awards must be received by the Office of Research Services no later than November 19th.

* The Engineering and Computer Science Students' Association (ECA) will be holding its second *Women in Engineering Conference* on January 19th. Sixty young women in Secondaries IV and V will be invited to Concordia, along with their teachers. They will visit the Faculty and its laboratories, and take part in discussions about engineering as a career option.

FACULTY WELCOME RECEPTION AT CCA

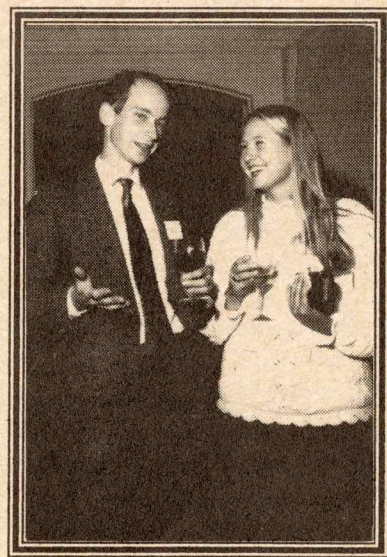
Attendance at the Dean's Welcome Reception on October 1st was high, despite the fact that it was held on the same day as the Concordia Shuffle. Several guests, including Dr. Patrick Kenniff (Rector), Ann Franklin-Bottjer (Dean's Office) and Stanley Yee (ECA), managed to take part in both activities. (We congratulate them for helping to raise \$30,000 for scholarships and bursaries.) About two hundred people attended the reception, which was held in the Shaughnessy House at the Canadian Centre for Architecture (CCA). The Faculty was especially pleased to welcome Mrs. Sarah Saber, Mrs. Frances Auerbach-Ziogas and Ms. Elizabeth Horwood. Volunteers gave two tours, one in English and the other in French, which allowed guests to see all areas of the Centre. Many people who had never visited CCA before said that they would return again just to enjoy the atmosphere.



Student Associations Propose Memorials

In order to acknowledge and commemorate the outstanding contributions to the University and Faculty of Drs. Phoivos Ziogas and Matthew Douglass, the ECA and ECSGA have proposed the dedication of space within the Faculty to their memories. In Civil Engineering the proposed space is the Structural Computation Lab, and in Electrical and Computer Engineering it is the Power Engineering Lab. The two student groups intend to discuss and co-ordinate the dedications with the departments involved. Small ceremonies will be held at the time of dedication.

Mechanical Engineering has already dedicated space to the memory of Dr. Jaan Saber.



Above: Robert Paknys and Kim Rokas, both from the Electrical & Computer Engineering Department, share a laugh.

Left: (L-R) Members of the Dean's Office, Ann Franklin-Bottjer, Jennifer Apostolakos and Leslie Becskei talk with Maureen Habib (Rector's Office) and Brigitte St-Laurent-Taddeo.

WHEN LEAVING YOUR OFFICE AT NIGHT, PLEASE REMEMBER TO TURN OFF THE LIGHTS AND OTHER NON-ESSENTIAL ELECTRIC EQUIPMENT.

FACULTY FACES

Dr. Richard Guy - Centre for Building Studies

The week before classes began Dr. Richard Guy confessed to a certain amount of stage fright. "The first class is always like an interview - you're guaging them, and they are guaging you." He always wears a white shirt and a tie to the first class, it shows a certain amount of respect for the students and allows him, if necessary, to use the fall back position - formality. He has never found it necessary. "By the end of the second lecture, we've usually developed a mutual respect."

Dr. Guy began teaching in the Building Engineering Department at Herriott-Watt University in Edinburgh, Scotland in 1973. He moved to Concordia in 1977 to join the recently established Centre for Building Studies. (CBS was established on a model of European building engineering programmes.) Despite the fact that he has

remained in the same discipline, he finds Canada different from the United Kingdom. "The primary difference is the diversity. In the UK you are teaching a generally homogeneous group. Here you teach thirty individuals with differing backgrounds, and you must keep that in mind at all times."

"The prerequisite for doing anything well is that you enjoy it. That doesn't mean you have to start out enjoying it." That is Dr. Guy's response when asked if he enjoys teaching. He originally decided to work in academia to indulge his love for research, teaching was something that went with the territory. "However, when you see a look of enlightenment on what was a blank face, that's when you start reaping the benefits of the effort you have put into preparing the course." And each course takes a lot of preparation, typically five to six hours for every hour of classroom contact. He thinks behind the scenes preparation is the key to good teaching, "You must know what you are going to say, when you are going to say it, why you are saying it and, preferably, how you will say it... before you say it." At Concordia, of course, it also helps to know where you are going to say it.

In the classroom he believes there are three requirements for successful teaching. The first is respect for the audience and then recognising the entertainment aspect

of lecturing, "If you can't get them interested in what you're saying, you certainly can't teach them." He often uses humour to catch the attention of the class, but he's been finding it tougher going of late, "The older students tell the newer ones all my jokes. I have

to keep coming up with new material." The third requirement is appreciation of the functional application of knowledge, or putting things in the students' context. "The students must think the subject is worth knowing about. By giving practical examples and vignettes of personal experience, you help to develop an appreciation of its eventual use."

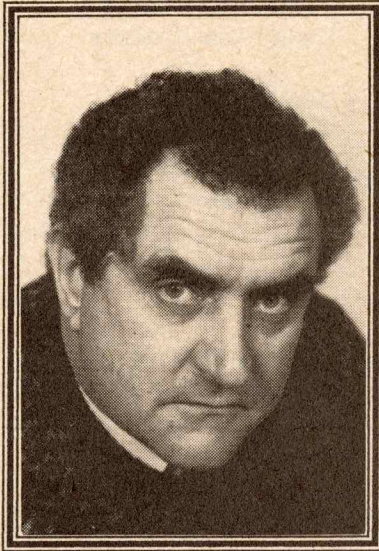
Dr. Guy likes to put his research in context, too. He has developed, in collaboration with Adel Abdou, a Ph.D. student, the first, and what is likely to

become standard, technique for assessment of directional effects with respect to human hearing. The technique, which can be used in any setting, was designed mainly for opera houses, theatres and auditoria. It was also developed with Montreal in mind, as its characteristics lend themselves to the low frequency effects found in churches. (Because as Mark Twain said, "You can't throw a stone in Montreal without hitting a church.") It has already been used practically within the Concordia community at the Loyola Concert Hall, and is presently being used to assess the Loyola Chapel.

Two weeks after classes started Dr. Guy's stage fright was gone, "I think we have reached the point where I can take my tie off in class - yes, I don't see any problem with that."

Dr. Guy is currently organising the Third International Congress on Air and Structure Borne Sound and Vibration, to be held at Concordia between June 13th and 15th, 1994. For more information about the Congress call 3191.

Faculty Faces is a regular feature of Bits, focusing on personalities within Engineering and Computer Science.



STUDENT ACHIEVEMENTS

* Mashid Izady Vahedy (Electrical and Computer) and Lisa De Bellis (Building) are winners of Concordia Master's Entrance Scholarships for Women. These scholarships are awarded annually to encourage women to continue their education at the graduate level. Both Ms. Vahedy and Ms. De Bellis have also received scholarships from the Natural Science and Engineering Research Council (NSERC).

* During a summer stage at Siricon, graduate student Hugues Rivard took the thesis work of Krishnan Gowri and developed it into a software package called CONDENSE. This package allows building designers to identify potential condensation problems in built-up walls before construction. At the Gala de Octas, in May, he received a trophy and cash prize in the "catégorie relève". As a finalist at the 4th annual Gala Energia, presented by the Association québécoise pour la maîtrise de l'énergie (AQME), he received an honourable mention and a \$500 bursary.

* Also at the AQME's Gala, Bassam Abushakra, another graduate student from the Centre for Building Studies, won first prize in the student competition for a study entitled, *Energy savings through plate heat exchangers at Bell Canada*. Lise Bacon, Quebec's Minister of Energy and Resources awarded Mr. Abushakra a \$2,000 bursary.

* Nick Strathy won the prize for best student poster in the knowledge-based systems category at this year's IRIS PRECARN Conference in Ottawa. Mr. Strathy is a graduate student at the Centre for Pattern Recognition and Machine Intelligence (CENPARMI), supervised by Drs. Ching Suen and Adam Krzyzak. His poster was titled, *Segmentation of Touching Numerals Using Contour Features*.

Engineering & Computer Science Bits, is a monthly publication of the Faculty of Engineering and Computer Science Communications Office. For more information please call ext. 3073.

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Bits welcomes submissions from the Engineering and Computer Science community. Please send all submissions to: Bawn Wiseman, Communications Officer, H 907.

DEAN OUTLINES OBJECTIVES FOR FACULTY

The Engineering and Computer Science Faculty Council met for the first time in the 1993-94 academic year on September 17th. In his remarks as chair, Dr. Donat Taddeo began by noting the strength of the Faculty and its research profile. He continued by underlining the issues which will be facing us in the near future - the accreditation process, the response to the Faculty Review and the inquiry into the integrity of scientific and academic research. (The committee for this inquiry was set at the September 22nd meeting of the Board of Governors.) The highlight of the Dean's address to Council, however, was the outline of his objectives for the Faculty. They are:

1. To restructure the Office of the Dean through attribution of duties and responsibilities to members of the Decanal Team, so as to facilitate the faculty's interaction with the University and its various academic and non-academic constituents.
2. To devolve, accordingly, to the academic units of the Faculty, the increased responsibility and accountability for all facets of their operations.
3. To promote the participation of the Faculty Executive Committee and Council in the discussion, determination, adoption and implementation of Faculty-wide policies, goals and objectives.
4. To foster the attitudes of openness, tolerance and inclusivity within the Faculty, as well as between the Faculty and the University community in general.
5. To assess the distribution of resources within the Faculty (ie. capital and operating budgets, faculty and staff, space) and develop, with the Executive Committee, strategies for the optimum use of these resources.
6. To increase the communication within the Faculty, between the Faculty and the University and between the faculty and external communities to enhance the Faculty's image and visibility.
7. To propose, with the participation of the Executive Committee, a specific plan of action to hire more women to the Faculty's academic and technical staff, and to attract more women students to engineering and computer science at Concordia, at both the undergraduate and graduate levels.
8. To increase the Faculty's liaison with the Quebec community (government, industry and university) through the increased participation of faculty members in joint projects, as well as increased membership in l'Ordre des ingénieurs du Québec.
9. To identify the best opportunities for faculty exchanges and agreements on the international level, with particular attention to the North American Free Trade Zone, the European Economic Community and the Asian Pacific Rim. A survey of formal agreements between the Canadian and Quebec governments and countries in these areas will be conducted to determine the resources already available to promote exchanges and joint research projects.
10. To define and develop a mission statement and a strategic plan of action for the Faculty of Engineering and Computer Science, taking into consideration the Faculty Review process and the responses which have been made to the Faculty Review.

After outlining his objectives, Dr. Taddeo told council that, while he does not wish to paralyse the Faculty's teaching and research responsibilities with committee work, he is counting on the support and contribution of all members of the community. He concluded by saying that these are exciting and challenging times for the Faculty of Engineering and Computer Science, and that he is proud to be associated with the Faculty and the opportunities it presents for the future.

Also at Faculty Council (September 17th)...

* Ratification of the following Senate and Senate Committee appointments:

-Senate	Hormoz Poorooshasb
-University Library Committee	Bernice Goldsmith
-Undergraduate Scholarships and Awards Committee	Fariborz Haghighat
-Sub-committee on Academic Computer Policy	Ramesh Rajagopalan
-Computer Resources Committee	Graham Martin
-Visiting Lecturers Committee	Claude Bédard
-Graduate Studies Committee	Syed Alkass
	Clement Lam

* Graduate course changes

Additions: ENGR 713 Adaptive Control
ELEC 605 Introduction to Analog VLSI

Tabled and returned to Graduate Studies Committee:

ELEC 674 Computer Architecture and Design
MECH 660 Testing of Composite Materials and Structures

- * The response to the Faculty Review was tabled until January 1994, at which time it will be presented to Faculty Council along with a Strategic Plan of Action. Both of these documents will be developed by a committee, chaired by Dr. Stanley Kubina, Associate Dean - Strategic Planning.

"Did Someone Say Pizza?"

It all started on a cold, winter day when Carol Williams and a friend walked into a crowded pizza place for lunch, "It was really busy, and we were really hungry. We didn't want to wait." So, they bought a medium, all-dressed and came back to the Hall Building to eat it. When they couldn't finish the whole pizza, they sold the leftover pieces to two colleagues. Now, every Friday, members of the Mechanical Engineering Department gather informally for lunch. Peter Lawn waits for the smell of pizza to hit his office before making his way to the reception area. Joe Hulet can see it coming through the door from his lab. Some people call the reception desk to get an estimated time of arrival. Whatever method is used, as soon as the food arrives, a good sized crowd forms. According to Joe Hulet, "Sometimes there are more professors or students or staff, but basically anyone in the department can come, they just have to let Carol know beforehand." The pizzas are ordered from d'Angelo's on de Maisonneuve. Everybody pays for lunch based on how much they eat - two slices and a glass of soda costs anywhere from \$4 to \$6, depending on how many people show up. Conversation during lunch is lively and varied: television, teaching, Tai Chi, china settings and the fine art of pizza making, were just a few of the subjects we touched on the day I was invited to lunch.

Anyone wishing to plan a similar activity in their own department, can call Carol for advice at 3131.